Creating a Variable From Scratch – Part 1

In this tutorial we show how to create a variable from some data and set some attributes on it.

```
import cdms, MV

# Let's start by creating data by hand, but you could achieve this via a script,
# reading data from a file, etc..

my_data=[
         [1,2,3],
         [4,5,6],
         [7,8,9],
         [10,11,12],
        ]

# It is really easy to convert this 2 dimensional list into an array
# that CDAT will be able to process further for statistical analysis or simply to disply it

my_array=MV.array(my_data)
print my_array.shape

# Done, that was easy, wasn't it ?
# Now we can fine tune this array, since it has been created with default values

# First its name
my_array.id='My Array'

# Second it's type, since everytihng in the list was integer it is of type integer
# But we can change this
my_array=my_array.astype('f')

# Here we changed the typecode toÂ  'f' which is float
# Accessible values are 'f': float, 'd': double, 'i': int , 'l': long

# Ok now we are adding "descriptive" attributes that would be useful to remember
my_array.history='first i created a list and then converted to MV and changed name and type'

# At this point we should also change the axis but this is for another tutorials

# We willÂ  quickly save it into a new file for future use
f=cdms.open('results.nc','w')
f.write(my_array)
f.close()
```